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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Steven J. Fredette

Serial No.: 10/783,213

Filed: February 20, 2004

Title: Electric Storage Augmentation of Fuel Cell Response to AC System Transients

Examiner: Zandra V. Smith

Art Unit: 2822

Docket No.: C-3126

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Wesley E. Sedlecek, Jr. declares that:

A. He resides at 42 Daisy Lane, South Windsor, CT 06074

B. He has a Master's degree in Electrical Engineering and has been working in the field of fuel cells and related arts for over 4 years, and is currently engaged in that field on behalf of UTC Fuel Cells, LLC, South Windsor, CT.

C. Paragraphs of the Office Action dated November 7, 2006 are referred to herein as "O.A. para. 5", etc.

D. Re O.A. para. 5, Small US 4,277,692 does not "augment the response" of anything with the storage 30 and bi-directional converter 10.

Column 9, lines 3-17 (9:3-17) of Small state "In the standby condition....thereby to control source current to the voltage source across terminals 24 and 26 of converter 10." Thus, during "standby", the battery is charged.

Small (9:60-63) states: "In the event AC mains power vanishes or is reduced below a predetermined peak, the controller 20 initiates the active condition of the converter 10 and opens power input control switch 40 (Fig. 1)".

Similarly, Small (12:23-25) claims "...to transfer power from said battery [30] to said AC input/output terminals [32] only when said switch [40] is open...." (Bracketed

numbers were added). Small (13:14-14:2) states "...selected to supply NET power to said AC load or recover net power for charging said battery." (Emphasis was added).

Thus, when the converter supplies power from the battery, it supplies all the power that the load receives; Small does not augment.

E. Re O.A. para. 7, in Small, the only AC power source other than the battery/converter combination, is the AC MAINS 22. As understood, the hypothesis is that Jungreis et al US 6,134,134 (Jungreis) teaches the fuel cell with DC/AC inverter is an "art-recognized equivalent" of AC mains, and therefore, substituting a fuel cell-DC/AC inverter for the AC mains in Small would be obvious.

However, Jungreis teaches "Power Generation" (2:49-3:40) as high and low speed synchronous and induction generators. Then, Jungreis teaches (3:42-45) "e. Other Forms of Generation Other forms of generation exist such as fuel cells....a DC-to-AC inverter to interface with a power grid or an AC load." Jungreis therefore teaches that a fuel cell/inverter combination is equivalent to high and low speed synchronous and induction generators. The generators recited at (2:49-3:40) are used by Jungreis as UPS sources 10, 12 (Fig. 1), not as equivalents of the POWER GRID. At (7:55, 56), Jungreis refers to "fuel cells with a DC-to-DC converter." This combination cannot substitute for AC mains.

One skilled in the art of fuel cells and electronics related thereto would not be informed by Jungreis that a fuel cell/inverter combination is an equivalent of an AC power source if that AC power source is AC MAINS as in Small.

F. From the facts set forth in paragraphs D and E herein, it is clear that one skilled in the fuel cell and electronic arts related to the subject application would not have been motivated to substitute a fuel cell/inverter of Jungreis for the AC Mains in Small. Claims 1 and 2 would therefore not be suggested by Small in view of Jungreis.

G. Cratty US 6,288,456 teaches connecting the converter 102 to the power grid 110, 111, as stated in O.A. para. 12. Contrary to the allegations of O.A. para. 13, Cratty does NOT teach any three phase power lines that the converter can reach, except the lines 111. These lines are NOT alternatives to the grid, but are simply the path to the

grid. The converter 102 cannot be connected alternatively to three phase lines or the grid as called for in claim 3.

H. Re O.A. para. 14, the rectifier 26 of Carter et al US 3,665,495 (Carter) (5:40-61; 5:72-6:1) is a simple rectifier and not an inverter. It only converts AC from the switches 24 to provide DC to the battery 38 and inverter 40. Since the rectifier 26 of Carter transfers power only TO and not FROM the battery 38; it cannot "augment the response of" anything "to transients on" the lines leading from the generator 32 (the alleged three-phase lines).

I. Re O.A. para. 15, power is NEVER delivered by the energy storage device 38 through switches 24, because the rectifier only flows power FROM the switches 24 TO the battery 38 and inverter 40. The switches 24 in Carter only allow charging the battery 38 or driving the inverter 40 from either the grid 12 or the generator 32.

J. Re O.A. para. 16, from the facts established in paragraphs G-I above, it is clear that one skilled in the art of fuel cells and related electronics would not have a converter switchable between load lines and a grid suggested to them by Cratty and Carter.

K. Claim 3 of the subject application would not be suggested to one of ordinary skill in the art related to the subject application by the four cited references.

L. All statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Wesley E. Sedleck, Jr. 2/6/2007
Wesley E. Sedleck, Jr. Date